

WHAT IS CLAIMED IS:

1. A receiving apparatus capable of reproducing image data and/or sound data, comprising:

reception means for receiving information  
5 consisting of image data, sound data, and additional system data;

reproducing means for reproducing received image and sound data on the basis of the system data; and

setting means for setting reproduction patterns  
10 in units of objects when the received image data has a data format segmented in units of objects.

2. The apparatus according to claim 1, further comprising a memory for storing the reproduction  
15 patterns set in units of objects in correspondence with information indicating a broadcast program contained in the system data.

3. The apparatus according to claim 2, wherein said  
20 reproducing means reproduces the received image and sound data on the basis of the reproduction pattern read out from said memory when the reproduction pattern corresponding to information indicating a broadcast program included in the received system data is stored  
25 in said memory.

4. The apparatus according to claim 2, wherein the reproduction pattern includes at least one of a display/non-display setup of an object, movement of a display position, and a change in display size.

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5. The apparatus according to claim 1, wherein the information is digital television broadcast, which broadcasts image and sound data encoded by MPEG 4.

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6. A receiving method of reproducing image data and/or sound data, comprising the steps of:

receiving information consisting of image data, sound data, and additional system data;

15 reproducing the received image and sound data on the basis of the system data; and

setting reproduction patterns in units of objects when the received image data has a data format segmented in units of objects.

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7. The method according to claim 6, further comprising the step of storing the reproduction patterns set in units of objects in a memory in correspondence with information indicating a broadcast program contained in the system data.

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8. The method according to claim 7, further comprising the step of controlling reproduction of the received image and sound data in the reproduction step on the basis of the reproduction pattern read out from the memory when the reproduction pattern corresponding to information indicating a broadcast program included in the received system data is stored in the memory.

9. The method according to claim 6, wherein the reproduction pattern includes at least one of a display/non-display setup of an object, movement of a display position, and a change in display size.

10. The method according to claim 6, wherein the information is digital television broadcast, which broadcasts image and sound data encoded by MPEG 4.

11. A computer program product comprising a computer readable medium having a computer program code, for a method of receiving information, and reproducing image data and/or sound data, said product comprising:

receiving process procedure code for receiving information consisting of image data, sound data, and additional system data;

reproducing process procedure code for  
reproducing received image and sound data on the basis  
of the system data; and

setting process procedure code for setting  
5 reproduction patterns in units of objects when the  
received image data has a data format segmented in  
units of objects.

12. A receiving apparatus for receiving MPEG 4  
10 information including image data and/or sound data  
encoded by another coding scheme, comprising:

first decoding means for decoding information  
encoded by MPEG 4;

second decoding means for decoding the image data  
15 and/or sound data encoded by the other coding scheme;  
and

synthesizing means for synthesizing a plurality  
of image data and/or sound data decoded by said first  
and second decoding means.

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13. The apparatus according to claim 12, wherein said  
second decoding means decodes image data and/or sound  
data encoded by MPEG 2.

25 14. The apparatus according to claim 12, further  
comprising reproducing means for reproducing the image

data and/or sound data synthesized by said synthesizing means.

15. The apparatus according to claim 13, further  
5 comprising setting means for setting a synthetic pattern of the plurality of image data to be synthesized by said synthesizing means and a reproduction pattern by said reproduction means.

10 16. The apparatus according to claim 15, further comprising a memory for storing the reproduction pattern set by said setting means in correspondence with information indicating a broadcast program included in the received information.

15 17. A receiving method for receiving MPEG 4 information including image data and/or sound data encoded by another coding scheme, comprising the steps of:

20        decoding information encoded by MPEG 4;  
         decoding the image data and/or sound data encoded by the other coding scheme; and  
         synthesizing a plurality of decoded image data and/or sound data.

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18. The method according to claim 17, wherein the other coding scheme is MPEG 2.

19. The method according to claim 17, further  
5 comprising the step of reproducing the image data and/or sound data synthesized in the synthesizing step.

20. The method according to claim 19, further  
10 comprising the step of setting a synthetic pattern of the plurality of image data in the synthesizing step and a reproduction pattern in the reproducing step.

21. The method according to claim 20, further  
15 comprising the step of storing the reproduction pattern set in the setting step in a memory in correspondence with information indicating a broadcast program included in the received information.

22. A computer program product comprising a computer  
20 readable medium having a computer program code, for a receiving method for receiving MPEG 4 information including image data and/or sound data encoded by another coding scheme, said product comprising:

first decoding process procedure code for  
25 decoding information encoded by MPEG 4;

second decoding process procedure code for  
decoding the image data and/or sound data encoded by  
the other coding scheme; and

synthesizing process procedure code for  
5 synthesizing a plurality of decoded image data and/or  
sound data.

23. A receiving apparatus comprising:

reception means for receiving a digital data  
10 sequence;

decoding means for decoding image data, sound  
data, and system data from the received digital data  
sequence;

setting means for setting a reproduction pattern  
15 corresponding to category information which is included  
in the system data and indicates contents of the  
received digital data sequence; and

control means for controlling the reproduction  
pattern of the decoded image data and/or sound data on  
20 the basis of the decoded system data and set  
reproduction pattern.

24. The apparatus according to claim 23, wherein the  
digital data sequence is television broadcast, which  
25 broadcasts image data and sound data encoded by MPEG 4.

25. The apparatus according to claim 23, further comprising a memory for storing the reproduction pattern corresponding to the category information in correspondence with the category information and object  
5 information indicating contents of an object that forms an image.

26. The apparatus according to claim 25, wherein said setting means reads out the reproduction pattern  
10 corresponding to the category information, and said control means controls a layout of an object corresponding to the object information, which is stored in correspondence with the readout reproduction pattern.

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27. The apparatus according to claim 23, further comprising:

setting means for manually setting a layout of a predetermined object; and

20 a memory for storing the layout set by said setting means together with the category information and object information of the predetermined object as information indicating the reproduction pattern.

28. The apparatus according to claim 27, wherein said  
25 setting means reads out the reproduction pattern corresponding to the category information, and said



control means controls a layout of an object corresponding to the object information, which is stored in correspondence with the readout reproduction pattern.

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29. A receiving method comprising the steps of:  
receiving a digital data sequence;  
decoding image data, sound data, and system data from the received digital data sequence;

10 setting a reproduction pattern corresponding to category information which is included in the system data and indicates contents of the received digital data sequence; and

controlling the reproduction pattern of the  
15 decoded image data and/or sound data on the basis of the decoded system data and set reproduction pattern.

30. The method according to claim 29, wherein the digital data sequence is television broadcast, which broadcasts image data and sound data encoded by MPEG 4.

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31. The method according to claim 29, further comprising the step of storing the reproduction pattern corresponding to the category information in a memory in correspondence with the category information and  
25 object information indicating contents of an object that forms an image.

09451870-120199

32. The method according to claim 31, wherein the setting step includes the step of reading out the reproduction pattern corresponding to the category information, and the control step includes the step of controlling a layout of an object corresponding to the object information, which is stored in correspondence with the readout reproduction pattern.

10 33. The method according to claim 29, further comprising:

manually setting a layout of a predetermined object; and

15 storing the set layout in a memory together with the category information and object information of the predetermined object as information indicating the reproduction pattern.

34. The method according to claim 33, wherein the setting step includes the step of reading out the reproduction pattern corresponding to the category information, and the control step includes the step of controlling a layout of an object corresponding to the object information, which is stored in correspondence with the readout reproduction pattern.

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35. A computer program product comprising a computer readable medium having a computer program code, for a receiving method, said product comprising:

receiving process procedure code for receiving a  
5 digital data sequence;

decoding process procedure code for decoding image data, sound data, and system data from the received digital data sequence;

setting process procedure code for setting a  
10 reproduction pattern corresponding to category information which is included in the system data and indicates contents of the received digital data sequence; and

controlling process procedure code for  
15 controlling the reproduction pattern of the decoded image data and/or sound data on the basis of the decoded system data and set reproduction pattern.

36. A receiving apparatus comprising:

20 reception means for receiving a digital data sequence which is encoded by MPEG 4 and includes image data and/or sound data encoded by another coding scheme;

first decoding means for decoding image data,  
25 sound data, and system data from the digital data sequence encoded by MPEG 4;

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second decoding means for decoding the image data and/or sound data encoded by the other coding scheme;

setting means for setting a reproduction pattern corresponding to category information which is included  
5 in the system data and indicates contents of the received digital data sequence; and

control means for controlling the reproduction pattern of the image data and/or sound data decoded by said first and second decoding means on the basis of  
10 the decoded system data and set reproduction pattern.

37. The apparatus according to claim 36, wherein said second decoding means decodes image data and/or sound data encoded by MPEG 2.

15 38. The apparatus according to claim 36, further comprising a memory for storing the reproduction pattern corresponding to the category information in correspondence with the category information and object  
20 information indicating contents of an object that forms an image.

39. The apparatus according to claim 38, wherein said setting means reads out the reproduction pattern  
25 corresponding to the category information, and said control means controls a layout of an object

corresponding to the object information, which is stored in correspondence with the readout reproduction pattern.

- 5 40. The apparatus according to claim 36, further comprising:

setting means for manually setting a layout of a predetermined object; and

- 10 a memory for storing the layout set by said setting means together with the category information and object information of the predetermined object as information indicating the reproduction pattern.

41. The apparatus according to claim 40, wherein said  
15 setting means reads out the reproduction pattern corresponding to the category information, and said control means controls a layout of an object corresponding to the object information, which is stored in correspondence with the readout reproduction  
20 pattern.

42. A receiving method comprising the steps of:  
receiving a digital data sequence which is encoded by MPEG 4 and includes image data and/or sound  
25 data encoded by another coding scheme;

decoding image data, sound data, and system data  
from the digital data sequence encoded by MPEG 4;

decoding the image data and/or sound data encoded  
by the other coding scheme;

5        setting a reproduction pattern corresponding to  
category information which is included in the system  
data and indicates contents of the received digital  
data sequence; and

10        controlling the reproduction pattern of the image  
data and/or sound data decoded in the first and second  
decoding steps on the basis of the decoded system data  
and set reproduction pattern.

43.    The method according to claim 42, wherein the  
15    other coding scheme is MPEG 2.

44.    The method according to claim 42, further  
comprising the step of storing the reproduction pattern  
corresponding to the category information in a memory  
20    in correspondence with the category information and  
object information indicating contents of an object  
that forms an image.

45.    The method according to claim 44, wherein the  
25    setting step includes the step of reading out the  
reproduction pattern corresponding to the category

information, and the control step includes the step of controlling a layout of an object corresponding to the object information, which is stored in correspondence with the readout reproduction pattern.

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46. The method according to claim 42, further comprising:

manually setting a layout of a predetermined object; and

10 storing the set layout in a memory together with the category information and object information of the predetermined object as information indicating the reproduction pattern.

15 47. The method according to claim 46, wherein the setting step includes the step of reading out the reproduction pattern corresponding to the category information, and the control step includes the step of controlling a layout of an object corresponding to the  
20 object information, which is stored in correspondence with the readout reproduction pattern.

48. A computer program product comprising a computer readable medium having a computer program code, for a  
25 receiving method, said product comprising:

receiving process procedure code for receiving a digital data sequence which is encoded by MPEG 4 and includes image data and/or sound data encoded by another coding scheme;

5        first decoding process procedure code for decoding image data, sound data, and system data from the digital data sequence encoded by MPEG 4;

10       second decoding process procedure code for decoding the image data and/or sound data encoded by the other coding scheme;

15       setting process procedure code for setting a reproduction pattern corresponding to category information which is included in the system data and indicates contents of the received digital data sequence; and

20       controlling process procedure code for controlling the reproduction pattern of the image data and/or sound data decoded in the first and second decoding steps on the basis of the decoded system data and set reproduction pattern.

49.    A receiving apparatus comprising:

reception means for receiving a digital data sequence;

25       decoding means for decoding image data and system data from the received digital data sequence;



obtaining means for obtaining a current time;  
control means for controlling a reproduction  
pattern of the decoded image data on the basis of time  
information obtained by said obtaining means.

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50. The apparatus according to claim 49, wherein the  
digital data sequence is television broadcast, which  
broadcasts image data and sound data encoded by MPEG 4.

10 51. The apparatus according to claim 49, wherein said  
control means controls the reproduction pattern of the  
image data in units of objects of the image data.

15 52. The apparatus according to claim 49, wherein said  
control means identifies an object to be controlled on  
the basis of the system data.

20 53. The apparatus according to claim 49, wherein said  
obtaining means obtains the current time from the  
system data.

54. The apparatus according to claim 49, further  
comprising a memory for holding a plurality of  
reproduction patterns, and wherein said control means  
25 reproduces an image based on the reproduction pattern

09451870-120199

when the reproduction pattern corresponding to the time information is held in said memory.

55. The apparatus according to claim 49, further comprising:

setting means for manually setting a layout of a predetermined object in correspondence with the time information; and

a memory for holding the layout set by said setting means together with object information of the predetermined object as information indicating the reproduction pattern.

56. The apparatus according to claim 55, wherein said setting means sets at least one of a reproduction ON/OFF state, reproduction position, and reproduction size of the predetermined object.

57. The apparatus according to claim 55, wherein said control means reads out the reproduction pattern corresponding to the time information from said memory, and controls a layout of an object corresponding to the object information, which is stored in correspondence with the readout reproduction pattern.

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58. The apparatus according to claim 49, wherein said decoding means further decodes sound data from the digital data sequence, and said control means further controls a reproduction pattern of the decoded sound data on the basis of the system data and the time information.

59. The apparatus according to claim 58, wherein said control means controls a reproduction level and/or sound field lateralization of a sound object.

60. A receiving method comprising the steps of:  
receiving a digital data sequence;  
decoding image data and system data from the received digital data sequence;  
obtaining a current time; and  
controlling a reproduction pattern of the decoded image data on the basis of obtained time information.

61. The method according to claim 60, wherein the digital data sequence is television broadcast, which broadcasts image data and sound data encoded by MPEG 4.

62. The method according to claim 60, wherein the control step includes the step of controlling the

reproduction pattern of the image data in units of  
objects of the image data.

63. The method according to claim 60, wherein the  
5 control step includes the step of identifying an object  
to be controlled on the basis of the system data.

64. The method according to claim 60, wherein the  
obtaining step includes the step of obtaining the  
10 current time from the system data.

65. The method according to claim 60, further  
comprising the steps of:

holding a plurality of reproduction patterns in a  
15 memory; and

reproducing an image based on the reproduction  
pattern when the reproduction pattern corresponding to  
the time information is held in the memory.

20 66. The method according to claim 60, further  
comprising:

manually setting a layout of a predetermined  
object in correspondence with the time information; and

holding the set layout in a memory together with  
25 object information of the predetermined object as  
information indicating the reproduction pattern.

09451870-120199

67. The method according to claim 66, wherein the  
setting step includes the step of setting at least one  
of a reproduction ON/OFF state, reproduction position,  
5 and reproduction size of the predetermined object.

68. The method according to claim 66, wherein the  
control step includes the step of reading out the  
reproduction pattern corresponding to the time  
10 information from the memory, and controlling a layout  
of an object corresponding to the object information,  
which is stored in correspondence with the readout  
reproduction pattern.

69. The method according to claim 60, wherein the  
decoding step includes the step of further decoding  
sound data from the digital data sequence, and the  
control step further includes the step of controlling a  
reproduction pattern of the decoded sound data on the  
15 basis of the system data and the time information.

70. The method according to claim 69, wherein the  
control step includes the step of controlling a  
reproduction level and/or sound field lateralization of  
25 a sound object.

71. A computer program product comprising a computer readable medium having a computer program code, for a receiving method, said product comprising:

receiving process procedure code for receiving a  
5 digital data sequence;

decoding process procedure code for decoding  
image data and system data from the received digital  
data sequence;

obtaining process procedure code for obtaining a  
10 current time; and

controlling process procedure code for  
controlling a reproduction pattern of the decoded image  
data on the basis of obtained time information.

15 72. A receiving apparatus comprising:

reception means for receiving a digital data  
sequence which is encoded by a first scheme and  
includes image data encoded by a second scheme;

first decoding means for decoding image data and  
20 system data from the digital data sequence encoded by  
the first scheme;

second decoding means for decoding the image data  
encoded by the second scheme;

obtaining means for obtaining a current time; and  
25 control means for controlling a reproduction  
pattern of the image data decoded by said first and

second decoding means on the basis of the decoded system data, and time information obtained by said obtaining means.

- 5 73. The apparatus according to claim 72, wherein the first scheme is MPEG 4, and the second scheme is MPEG 2.

- 10 74. The apparatus according to claim 72, wherein the first scheme is MPEG 2, and the second scheme is MPEG 4.

75. The apparatus according to claim 72, wherein said control means controls the reproduction pattern of the image data in units of objects of the image data.

- 15 76. The apparatus according to claim 72, wherein said control means identifies an object to be controlled on the basis of the system data.

- 20 77. The apparatus according to claim 72, wherein said obtaining means obtains the current time from the system data.

- 25 78. The apparatus according to claim 72, further comprising a memory for holding a plurality of reproduction patterns, and wherein said control means reproduces an image based on the reproduction pattern

when the reproduction pattern corresponding to the time information is held in said memory.

79. The apparatus according to claim 72, further  
5 comprising:

setting means for manually setting a layout of a predetermined object in correspondence with the time information; and

10 a memory for holding the layout set by said setting means together with object information of the predetermined object as information indicating the reproduction pattern.

80. The apparatus according to claim 79, wherein said  
15 setting means sets at least one of a reproduction ON/OFF state, reproduction position, and reproduction size of the predetermined object.

81. The apparatus according to claim 79, wherein said  
20 control means reads out the reproduction pattern corresponding to the time information from said memory, and controls a layout of an object corresponding to the object information, which is stored in correspondence with the readout reproduction pattern.

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82. The apparatus according to claim 72, wherein said first and second decoding means further decode sound data from the digital data sequence, and said control means further controls a reproduction pattern of the decoded sound data on the basis of the system data and the time information.

83. The apparatus according to claim 82, wherein said control means controls a reproduction level and/or sound field lateralization of a sound object.

84. A receiving method comprising the steps of:  
receiving a digital data sequence which is encoded by a first scheme and includes image data encoded by a second scheme;  
decoding image data and system data from the digital data sequence encoded by the first scheme;  
decoding the image data encoded by the second scheme;  
obtaining a current time; and  
controlling a reproduction pattern of the image data decoded in the first and second decoding steps on the basis of the decoded system data and the obtained time information.

85. The method according to claim 84, wherein the first scheme is MPEG 4, and the second scheme is MPEG 2.

86. The method according to claim 84, wherein the first scheme is MPEG 2, and the second scheme is MPEG 4.

87. The method according to claim 84, wherein the control step includes the step of controlling the reproduction pattern of the image data in units of objects of the image data.

88. The method according to claim 84, wherein the control step includes the step of identifying an object to be controlled on the basis of the system data.

89. The method according to claim 84, wherein the obtaining step includes the step of obtaining the current time from the system data.

90. The method according to claim 84, further comprising the steps of:

holding a plurality of reproduction patterns in a memory; and

reproducing an image based on the reproduction pattern when the reproduction pattern corresponding to the time information is held in the memory.

91. The method according to claim 84, further comprising:

manually setting a layout of a predetermined object in correspondence with the time information; and

5 holding the set layout in a memory together with object information of the predetermined object as information indicating the reproduction pattern.

92. The method according to claim 91, wherein the  
10 setting step includes the step of setting at least one of a reproduction ON/OFF state, reproduction position, and reproduction size of the predetermined object.

93. The method according to claim 91, wherein the  
15 control step includes the step of reading out the reproduction pattern corresponding to the time information from the memory, and controlling a layout of an object corresponding to the object information, which is stored in correspondence with the readout  
20 reproduction pattern.

94. The method according to claim 84, wherein the decoding step includes the step of further decoding sound data from the digital data sequence, and the  
25 control step includes the step of controlling a

reproduction pattern of the decoded sound data on the basis of the system data and the time information.

95. The method according to claim 94, wherein the  
5 control step includes the step of controlling a reproduction level and/or sound field lateralization of a sound object.

96. A computer program product comprising a computer  
10 readable medium having a computer program code, for a receiving method, said product comprising:

receiving process procedure code for receiving a digital data sequence which is encoded by a first scheme and includes image data encoded by a second  
15 scheme;

first decoding process procedure code for decoding image data and system data from the digital data sequence encoded by the first scheme;

second decoding process procedure code for  
20 decoding the image data encoded by the second scheme;

obtaining process procedure code for obtaining a current time; and

controlling process procedure code for controlling a reproduction pattern of the image data  
25 decoded in the first and second decoding steps on the

basis of the decoded system data and the obtained time  
information.

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